

IN THE CLAIMS:

Please amend pending Claims 7, 17, 21 and 25 as follows:

1. (Previously Presented) An apparatus for measuring motion of a portion of the body of a patient in a magnetic field, comprising:

a cradle coupled around at least part of said portion of the body of said patient;

a length of wire coupled to said cradle and responsive to motion of said portion of the body of said patient; and

a voltage measuring device having an input coupled to said wire and an output representative of the motion of said portion of the body of said patient.

2. (Original) The apparatus of Claim 1, wherein said cradle is formed from a thin polycarbonate plastic strip.

3. (Original) The apparatus of Claim 1, wherein said length of wire is formed from a high resistance lead.

4. (Previously Presented) The apparatus of Claim 1, wherein said voltage measuring device comprises:

a Faraday shield forming an enclosure;

two RF filters mounted in said Faraday shield, each of said RF filters having an input coupled to said wire and an output;

a differential amplifier mounted within said enclosure and having two inputs and an output, each of said inputs coupled to a respective output of one of said two RF filters;

a gradient filter mounted within said enclosure and having an input and an output, said input of said gradient filter coupled to said output of said differential amplifier, and

a transmitter mounted within said enclosure and having an input connected to said output of said gradient filter and an output representative of the motion of said portion of the body of said patient.

5. (Previously Presented) The apparatus of Claim 1, wherein said voltage measuring device comprises:

a Faraday shield forming an enclosure and coupled to said wire;

an RF filter mounted in said Faraday shield having an input coupled to said wire and an output;

a differential amplifier mounted in said enclosure and having two inputs and an output, one of said inputs coupled to said output of said RF filter and the other of said inputs connected to said Faraday shield;

a gradient filter mounted in said enclosure and having an input and an output, said input of said gradient filter coupled to said output of said differential amplifier, and

a transmitter mounted in said enclosure and having an input coupled to said output of said gradient filter and an output representative of the motion of said portion of the body of said patient.

6. (Previously Presented) An apparatus for measuring motion of a portion of the body of a patient in a magnetic field, comprising:

a length of wire coupled around at least part of said portion of the body of said patient; and

means for measuring a voltage developed on said length of wire in a magnetic field, said means for measuring a voltage positioned within said magnetic field and having a first input connected to said and an output representing the motion of said portion of the body of said patient.

7. (Currently Amended) An apparatus for measuring producing a signal representing both the motion of a an exterior portion of the body of a patient in a magnetic field and an electrocardiogram of a the patient in a the magnetic field, comprising:

first and second ECG electrodes adapted to be attached to said a patient positioned in said magnetic field;

first and second ECG leads connected respectively to said first and second electrodes, one of said first ECG lead leads enclosing adapted to enclose at least part of said exterior portion of the body of said patient; and

a voltage measuring device having an input coupled to said ECG leads and producing an output representing signal having a first component induced by said magnetic field in the first ECG lead and representative of the motion of the exterior portion of the body of said patient and a second component representative of the electrocardiogram of said patient.

8. (Previously Presented) The apparatus of Claim 7, further comprising a cradle coupled around at least part of said portion of the body of said patient and coupled to said one of said ECG leads enclosing at least part of said portion of the body of said patient.

9. (Original) The apparatus of Claim 8, wherein said cradle is formed from a thin polycarbonate plastic strip.

10. (Previously Presented) The apparatus of Claim 7, wherein said ECG leads are formed from high resistance leads.

11. (Previously Presented) The apparatus of Claim 7, wherein said voltage measuring device comprises:

a Faraday shield forming an enclosure;

two RF filters mounted in said Faraday shield, each of said RF filters having an input coupled to a respective one of said ECG leads and an output;

a differential amplifier mounted within said enclosure and having two inputs and an output, each of said inputs coupled to a respective output of one of said two RF filters;

a gradient filter mounted within said enclosure and having an input and an output, said input of said gradient filter coupled to said output of said differential amplifier, and

a transmitter mounted within said enclosure and having an input coupled to said output of said gradient filter and an output representative of the motion of said portion of the body of said patient.

12. (Previously Presented) The apparatus of Claim 7, wherein said voltage measuring device comprises:

a Faraday shield forming an enclosure and coupled to a first one of said ECG leads;

an RF filter mounted in said Faraday shield having an input coupled to a second one of said ECG leads and an output;

a differential amplifier mounted within said enclosure and having two inputs and an output, one of said inputs coupled to said output of said RF filter and the other of said inputs connected to said Faraday shield;

a gradient filter mounted within said enclosure and having an input and an output, said input of said gradient filter coupled to said output of said differential amplifier, and

a transmitter mounted within said enclosure and having an input coupled to said output of said gradient filter and an output representative of the motion of said portion of the body of said patient.

13. (Previously Presented) A method for measuring motion of a portion of the body of a patient in a magnetic field, comprising:

coupling a cradle to at least part of said portion of the body of said patient;

coupling a length of wire to said cradle; and

measuring the voltage developed on said length of wire to generate a signal representing the motion of said portion of the body of said patient.

14. (Original) The method of Claim 13, wherein said cradle is formed from a thin polycarbonate plastic strip.

15. (Original) The method of Claim 13, wherein said length of wire is formed from a high resistance lead.

16. (Previously Presented) A method for measuring motion of a portion of the body of a patient in a magnetic field, comprising:

positioning a length of wire around at least part of said portion of the body of said patient; and

measuring, within said magnetic field, a voltage developed on said length of wire in a magnetic field to generate a signal representing the motion of said portion of the body of said patient.

17. (Currently Amended) A method for measuring of producing a signal representative of the motion of a portion of the body of a patient in a magnetic field and an electrocardiogram of a the patient in a the magnetic field, comprising:

attaching a first and second ECG electrode electrodes and a second ECG electrode leads to the patient;

— connecting a first ECG lead to said first ECG electrode at a first end thereof;

— connecting a second ECG lead to said second ECG electrode at a first end thereof;

coupling said second at least one ECG lead around at least part of said exterior portion of the body of the patient; and

producing an output signal having a first component induced by said magnetic field in said at least one ECG lead and representative of measuring a voltage developed between a second end of said first ECG lead and a second end of said second ECG lead to generate a signal representing the motion of the exterior portion of the body of the patient and a second component representative of the electrocardiogram of the patient.

18. (Previously Presented) The method of Claim 17, further comprising the step of positioning a cradle attached around at least part of the portion of the body of the patient, said cradle coupled to said second ECG lead.

19. (Original) The method of Claim 18, wherein said cradle is formed from a thin polycarbonate plastic strip.

20. (Previously Presented) The method of Claim 17, wherein said first ECG lead and said second ECG lead are formed from high resistance leads.

21. (Currently Amended) An apparatus for measuring motion of a an exterior portion of the body of a patient in a magnetic field, comprising:

means for detecting motion of the exterior portion of the body of said patient in the presence of said magnetic field; and

a voltage measuring device connected to said detecting means and having an output induced by the interaction of the motion of the exterior portion of the body of the patient and said magnetic field and representative of representing the motion of the exterior portion of the body of the patient.

22. (Previously Presented) The apparatus of Claim 21, wherein said means for detecting motion of the exterior portion of the body of the patient comprises:

a cradle coupled around at least part of the exterior portion of the body of the patient;

a length of wire coupled to said cradle and responsive to motion of the exterior portion of the body of the patient.

23. (Previously Presented) The apparatus of Claim 21, wherein said means for detecting motion of the exterior portion of the body of the patient comprises:

first and second ECG electrodes attached to the patient; and

first and second ECG leads connected respectively to said first and second electrodes, one of said ECG leads enclosing at least part of the exterior portion of the body of the patient.

24. (Previously Presented) An apparatus for measuring motion of a portion of the body of a patient in a magnetic field, comprising:

a cradle adapted to be coupled around at least part of a portion of the body of a patient;

a length of wire coupled to said cradle and, when coupled to a patient, responsive to motion of said portion of the body of said patient; and

a voltage measuring device having an input coupled to said wire and an output representative of the motion of said portion of the body of said patient.

25. (Currently Amended) An apparatus for measuring respiration of a patient positioned in a magnetic field, comprising:

first and second ECG electrodes adapted to be attached to the patient positioned in a magnetic field;

first and second ECG leads adapted to be connected respectively to said first and second electrodes, at least one of said ECG leads enclosing at least part of a the exterior portion of the body of the patient; and

a voltage measuring device connected to first and second ECG leads and having an output having a first component induced by the motion of said at least one ECG lead in said magnetic field and representative of representing the respiration of the patient and a second component representative of the electrocardiogram of the patient.